

PATENT
Attorney Docket No. 536-009.021IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: :
H. MÜSSIG et al. : Intl. Application No.: **PCT/EP03/10625**
Serial No.: **10/528,868** : Intl. Filing Date: **September 24, 2003**
Filed: **March 24, 2005** : Priority Date: **September 26, 2002**
For: **Semiconductor dielectric component with a praseodymium oxide dielectric**

Commissioner for Patents
Mail Stop PCT
ATTENTION: EO/US
P.O. Box 1450
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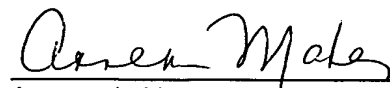
INFORMATION DISCLOSURE STATEMENT

Sir:

Applicants submit herewith references of which they are aware, which they believe may be material to the examination of this application and in respect of which they may have a duty to disclose in accordance with 37 CFR §1.56.

While this Information Disclosure Statement (IDS) may be "material" pursuant to 37 CFR §1.56(b), it is not intended to constitute an admission that any document referred to herein is "prior art" for this invention unless specifically designated as such.

I hereby certify that this correspondence is being deposited with the United States Postal Service on this date, July 12, 2005, in an envelope with sufficient postage as first-class mail addressed to the Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



Annemarie Maher

In accordance with 37 CFR §1.97(g), the filing of this IDS shall not be construed to mean that a search has been made or that no other material information as defined under 37 CFR §1.56(a) exists.

Enclosed is an International Search Report dated February 24, 2004 issued in International Patent Application No. PCT/EP03/10625 (filed on September 24, 2003), from which the present application has entered the US national phase. Also enclosed is a German Patent Office Search Report dated February 12, 2004 issued in German Patent Application No. 102 45 590.2-33 (filed on September 26, 2002), from which the present application claims priority. Further, enclosed is a Form PTO-1449 listing the cited references. Copies of the cited non-US references are also enclosed herewith (pursuant to the waiver of the USPTO requirement to submit copies of US references). The relevance of each reference is specifically explained in either the International Search Report, the German Patent Office Search Report or the application specification, and the abstract of each reference provides a concise explanation thereof.

This IDS is being submitted prior to receipt of a first Official Action in this matter; therefore, the undersigned respectfully submits that no fee is due for filing this IDS. If any fee is due, the Commissioner is hereby authorized to charge to deposit account 23-0442 any fee deficiency required to submit this IDS.

Respectfully submitted,



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Dated: July 11, 2005

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FORM PTO-1449
INFORMATION DISCLOSURE STATEMENT

ATTY DOCKET NO.

536-009.021

SERIAL NO.

10/528,868

APPLICANT: H. MÜSSIG et al.

FILING DATE:

March 24, 2005

ART UNIT:

To Be Assigned

UNITED STATES PATENT DOCUMENTS

EXAM. INITIAL	DOCUMENT NUMBER	DATE	INVENTOR/ASSIGNEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	2002/0063299	May 30, 2002	<i>Kamata et al.</i>			
	2003/0119219	June 26, 2003	<i>Farcy et al.</i>			
	2003/0228747	Dec. 11, 2003	<i>Ahn et al.</i>			
	6,656,852	Dec. 02, 2003	<i>Rotondaro et al.</i>			

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO
WO 02/13275	Feb. 14, 2002	PCT/WIPO			
0 577 067	Jan. 05, 1994	EP			
1 096 042	May 02, 2001	EP			

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)

1	H. Ono et al., "Interfacial reactions between thin rare-earth-metal oxide films and Si substrates," <i>Applied Physics Letters</i> , vol. 78, no. 13, March 26, 2001, pp.1832-1834.
2	Z.M. Wang et al., "Photoemission study of the interaction of a Pr ₂ O ₃ overlayer with Si(100) as a function of annealing temperature," <i>Microelectronic Engineering</i> 66, 2003, pp. 608-614.
3	S. Jeon et al., "Excellent electrical characteristics of lanthanide (Pr, Nd, Sm, Gd, and Dy) oxide and lanthanide-doped oxide for MOS gate dielectric applications," <i>2001 IEEE, IEDM</i> pp. 01-471 - 474.
4	H. Müssig et al., "Can praseodymium oxide be an alternative high-K gate dielectric material for silicon integrated circuits?" <i>2001 IRW Final Report</i> .
5	H.J. Osten et al., "Epitaxial growth of praseodymium oxide on silicon," <i>Materials Science and Engineering B87</i> , 2001, pp. 297-302.
6	H.J. Osten et al., "High-K gate dielectrics with ultra-low leakage current based on praseodymium oxide," <i>2000 IEEE, IEDM</i> pp. 00-653 - 656.
7	H.J. Osten et al., "Epitaxial, high-K dielectrics on silicon: the example of praseodymium oxide," <i>Microelectronics Reliability</i> 41, XP-002265638, 2001, pp. 991-994.

Examiner (To be assigned)

Date: